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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/057,913	01/29/2002	Shigeru Aihara	218298US0CONT	5015
22850	7590	08/27/2004	EXAMINER	
OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314			TSANG FOSTER, SUSY N	
			ART UNIT	PAPER NUMBER
			1745	

DATE MAILED: 08/27/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Advisory Action

Application No.

10/057,913

Applicant(s)

AIHARA ET AL.

Examiner

Susy N Tsang-Foster

Art Unit

1745

--The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

THE REPLY FILED 17 August 2004 FAILS TO PLACE THIS APPLICATION IN CONDITION FOR ALLOWANCE. Therefore, further action by the applicant is required to avoid abandonment of this application. A proper reply to a final rejection under 37 CFR 1.113 may only be either: (1) a timely filed amendment which places the application in condition for allowance; (2) a timely filed Notice of Appeal (with appeal fee); or (3) a timely filed Request for Continued Examination (RCE) in compliance with 37 CFR 1.114.

PERIOD FOR REPLY [check either a) or b)]

- a) ☒ The period for reply expires 3 months from the mailing date of the final rejection.
- b) ☐ The period for reply expires on: (1) the mailing date of this Advisory Action, or (2) the date set forth in the final rejection, whichever is later. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of the final rejection.
- ONLY CHECK THIS BOX WHEN THE FIRST REPLY WAS FILED WITHIN TWO MONTHS OF THE FINAL REJECTION. See MPEP 706.07(f).

Extensions of time may be obtained under 37 CFR 1.136(a). The date on which the petition under 37 CFR 1.136(a) and the appropriate extension fee have been filed is the date for purposes of determining the period of extension and the corresponding amount of the fee. The appropriate extension fee under 37 CFR 1.17(a) is calculated from: (1) the expiration date of the shortened statutory period for reply originally set in the final Office action; or (2) as set forth in (b) above, if checked. Any reply received by the Office later than three months after the mailing date of the final rejection, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

1. ☐ A Notice of Appeal was filed on _____. Appellant's Brief must be filed within the period set forth in 37 CFR 1.192(a), or any extension thereof (37 CFR 1.191(d)), to avoid dismissal of the appeal.
2. ☐ The proposed amendment(s) will not be entered because:
- (a) ☐ they raise new issues that would require further consideration and/or search (see NOTE below);
- (b) ☐ they raise the issue of new matter (see Note below);
- (c) ☐ they are not deemed to place the application in better form for appeal by materially reducing or simplifying the issues for appeal; and/or
- (d) ☐ they present additional claims without canceling a corresponding number of finally rejected claims.

NOTE: _____

3. ☒ Applicant's reply has overcome the following rejection(s): See Continuation Sheet.
4. ☐ Newly proposed or amended claim(s) _____ would be allowable if submitted in a separate, timely filed amendment canceling the non-allowable claim(s).
5. ☒ The a) ☐ affidavit, b) ☐ exhibit, or c) ☒ request for reconsideration has been considered but does NOT place the application in condition for allowance because: See Continuation Sheet.
6. ☐ The affidavit or exhibit will NOT be considered because it is not directed SOLELY to issues which were newly raised by the Examiner in the final rejection.
7. ☒ For purposes of Appeal, the proposed amendment(s) a) ☐ will not be entered or b) ☒ will be entered and an explanation of how the new or amended claims would be rejected is provided below or appended.

The status of the claim(s) is (or will be) as follows:

Claim(s) allowed: None.Claim(s) objected to: None.Claim(s) rejected: 1,2,5-7,9-28.Claim(s) withdrawn from consideration: None.

8. ☐ The drawing correction filed on _____ is a) ☐ approved or b) ☐ disapproved by the Examiner.
9. ☐ Note the attached Information Disclosure Statement(s) (PTO-1449) Paper No(s). _____.
10. ☐ Other: _____

Continuation of 3. Applicant's reply has overcome the following rejection(s): Art rejections based on WO 97/08763 in the previous office action are withdrawn after further consideration by the Examiner.

Continuation of 5. does NOT place the application in condition for allowance because:

With respect to the 112, second paragraph rejections of record, applicant argues that the identification of the ions that pass through the porous adhesive layer is completely dependent upon the materials selected for the anode and cathode of a given battery and that the phrase "through which ions pass" is not indefinite. In response, the Examiner is not persuaded by applicant's arguments because the type of ions passing through the porous adhesive resin layer influences the selection of pore size of the adhesive resin layer and it unclear what ions would be capable of passing through the pores of a porous adhesive resin layer used to bond the electrode or electrodes to the separator.

With respect to art rejections based on Chen et al., applicant argues that the reference does not disclose, teach, or suggest that the presence of the electrolyte salt in the adhesive layer of Chen et al. renders the adhesive layer porous or has the function of providing the layer with through-holes. In response, the applicant themselves have stated on page 11 of the instant application that electrolyte salts such as LiPF₆ or LiClO₄ can served as a filler to form fine pores in the adhesive resin layer. Thus, the electrolyte salt in the adhesive resin layer of Chen et al. inherently renders the adhesive layer porous or has the function of providing the adhesive layer with through-holes.

With respect to art rejections based on Chen et al., applicant further contends that there is no separator layer disclosed in the Chen et al. reference and that Chen et al. disclose the adhesive layers function by bonding each of the active electrode material layers to the electrolyte layer. In response, the electrolyte layer functions as a separator and can be regarded as a separator for the positive and negative electrodes. Moreover, Chen et al. specifically discloses at col. 4, lines 2-4 that "the electrolyte layer 32 may also be adapted to act as a separator between electrode subassemblies 10 and 24".

With respect to the art rejections based on Hamano et al., applicant argues that the adhesive layers are indicated as being porous and that the porosity is developed by the evaporation of solvent NMP from the adhesive layer material, that there is absolutely no teaching or suggestion of an adhesive resin layer containing filler particles which provide passage spaces within the adhesive layer for the passage of lithium ions and that because the reference does not teach the use of a filler in the adhesive resin layer, it is impossible to form many through holes in the layer such that the porosity is low. In response, the Examiner disagrees with the applicant's assertions that the porosity of the adhesive resin layer of Hamano et al. is low since Hamano et al. specifically discloses at col. 3, lines 19-22 that the porosity of the adhesive resin layer is more than 35%. The Examiner disagrees with the applicant with respect to the presence of product-by process limitations in the claims. The limitation "the filler in the adhesive resin layer rendering the layer porous which provides passages through the resin layer through which ions pass" is a product by process limitation that contributes to the final porous structural feature of the adhesive resin layer of the instant product claims. Applicant themselves stated that the pores in the adhesive resin layer can be due to evaporation of solvent and the filler material on page 10 of the instant specification. Applicant states specifically on page 10 of the specification that "[a]n adhesive resin solution using a solution type adhesive resin is made up of a filler, an adhesive resin, and a solvent. Since the solvent is removed on drying, the adhesive resin layer is composed of the filler, the adhesive resin, and the voids formed on solvent's drying. The constitution of the adhesive resin layer is illustrated Fig. As can be seen from Fig. the void volume formed by the filler is made up of the volume of the adhesive resin and the volume of the voids formed on solvent's drying." Furthermore, applicant state on pages 11-12 of the instant specification that "[a]n inorganic salt, such as LiPF₆ or LiClO₄ that does not dissolve in an electrolytic solution or remains undissolved can serve as a filler to form fine pores. Even where the inorganic salt dissolves in an electrolytic solution, it leaves pores in the adhesive resin layer after dissolving, making it possible to increase the porosity of the adhesive resin layer."

With respect to WO 97/08763 (Yamashita et al.) reference, art rejections based on this reference are withdrawn in view of applicant's arguments and further consideration by the Examiner.

Thus, all rejections in the previous final office action are maintained except for the art rejections based on WO 97/08763.

Any inquiry concerning this communication or earlier communications should be directed to examiner Susy Tsang-Foster, Ph.D. whose telephone number is (571) 272-1293. The examiner can normally be reached on Monday through Friday from 9:30 AM to 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Ryan can be reached at (571) 272-1292.

The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

st/ *Susy Tsang-Foster*
Susy Tsang-Foster
Primary Examiner, Art Unit 1745